

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for determining dynamic ~~movement~~ parameters of movement of a material ~~an~~ object in sports competitions or training, using recording ~~the~~ an object motion trajectory in an infrared spectral range, ~~characterized by the method comprising:~~

~~recording, by an infrared camera operating in an infrared range of 3-12 μ m,~~
trajectories of infrared footmarks resulting from ~~the~~ an interaction of the object with ~~a~~ surrounding ~~objects~~ object or ~~a~~ surrounding environment;

~~recording and analyzing, by a computer operating according to corresponding software,~~ the dynamic of changes of ~~infrared radiation intensity on different parts of the trajectory~~ the trajectories of the infrared footmarks of the object ~~motion;~~ and,
calculating the object movement parameters ~~therefrom~~.

2. (Currently amended) The method according to claim 1, ~~characterized by further recording wherein~~ trajectories of the infrared footmarks are recorded in different spectral ranges within the infrared range of 3-12 μ m.

3. (Currently amended) The method according to claim 1, ~~characterized by further comprising~~ recording trajectories of shadows resulting from ~~the an~~ interaction of the object with concentrated or distributed external infrared sources within the infrared range of 3-12 μ m.

4. (Currently amended) The method according to claim 1, ~~characterized in that wherein~~ in big tennis, ~~the an~~ area of ~~the a~~ ball contact with ~~the a~~ court and ~~the a~~ time moment of ~~the~~ ball impingement with ~~the a~~ court surface are determined using ~~the~~ break of the trajectories of the infrared footmarks.

5. (Currently amended) An apparatus for determining dynamic ~~movement~~ parameters of movement of ~~a material an~~ object in sports competitions or training, the apparatus comprising:

at least one infrared camera operating in an infrared range of 3-12 μ m; ~~and~~
a computer; ~~and, characterized by further comprising~~
a mechanical oscillation receiver connected to the infrared camera and
intended to run and stop the infrared camera and the computer.

6. (Currently amended) The apparatus according to claim 5, ~~characterized by~~ further comprising an external light source.

7. (Currently amended) The apparatus according to claim ~~5~~ 6, ~~characterized in that wherein~~ the external light source is modulated by frequency or infrared radiation wavelengths of the infrared range of 3-12 μm and is synchronized with the infrared ~~cameras~~ camera.

8. (Currently amended) The apparatus according to claim 5, ~~characterized in that wherein~~ the infrared ~~cameras~~ camera, operating in the infrared range of 3-12 μm , has ~~have~~ a controlled time of fixing image.

9. (Currently amended) The apparatus according to claim 5, ~~characterized in that wherein~~ at least one infrared camera operating in the infrared range of 3-12 μm comprises an appliance enabling its rotation and movement synchronized with the mechanical oscillation receiver.

10. (Currently amended) The apparatus according to claim 5, ~~characterized in that wherein~~ at least one infrared camera operating in the infrared range of 3-12 μm comprises a system of optical filters for modifying ~~the a~~ spectral range of sensitivity of the infrared camera.

11. (Currently amended) A method of evaluating skill ~~and~~
~~development potential of a sportsman~~ ~~sportsmen~~, comprising:

using a method for determining dynamic ~~movement~~ parameters of movement
of ~~a material~~ an object in sports competitions or training, using recording ~~the~~ an
object motion trajectory in an infrared spectral range, ~~characterized by the method~~
comprising recording, by an infrared camera operating in an infrared range of 3-12
um, trajectories of infrared footmarks resulting from ~~the~~ an interaction of the object
with a surrounding ~~objects~~ object or a surrounding environment; recording and
analyzing, by a computer operating according to corresponding software, ~~the~~
dynamic ~~of~~ changes of infrared radiation intensity on different parts of the
trajectory of ~~the~~ an object motion; and calculating ~~the~~ object movement parameters
~~therefrom and the apparatus as set forth in claim 5.~~